



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
1200 Sixth Avenue  
Seattle, Washington 98101

OCT 27 2006

Reply to  
Attn of: OWW-135

Jay Manning, Director  
Washington State Department of Ecology  
Post Office Box 47696  
Olympia, Washington 98504-7696

Dear Mr. Manning:

EPA has reviewed Ecology's draft Phase I and Phase II National Pollutant Discharge Elimination System (NPDES) general permits for municipal storm water in western Washington. We recognize the tremendous amount of work that has been devoted to both developing these proposed permits, and the draft Phase II general permit for municipalities in eastern Washington. We commend Ecology for its efforts to develop permits that in a number of respects are the best in the nation.

The NPDES municipal storm water permits are an essential part of a comprehensive program to prevent and control storm water impacts from existing and new development. There are other programs beyond the scope of the permits that are also important to the effective management of storm water to maintain and improve water quality and aid in the recovery of salmon and bull trout listed under the Endangered Species Act (ESA).

This letter and accompanying enclosure are intended to communicate our recommendations regarding storm water management in western Washington. Our recommendations address two areas of interest. First, we outline our specific recommendations regarding the Phase I and Phase II draft western Washington municipal storm water permits. Second, we include additional recommendations regarding programs related to storm water management.

The draft Phase I and Phase II permits represent a significant step forward in storm water management in western Washington. EPA recommends finalizing the permits as soon as possible. We recognize that the draft permits contain all the basic elements specified in EPA's national storm water regulations. We also understand that some of the area's leading scientists believe that the proposed storm water permits may not provide adequate protection for sensitive listed species in urban and urbanizing areas. Therefore, our comments do not reflect an objection by EPA to the proposed permits, but are actions that we believe ecology should take now to minimize the impacts of storm water on the unique aquatic resources of the Puget Sound area.

In summary, our recommendations regarding the draft Phase I and Phase II permits for western Washington are as follows:

1. Expand the coverage areas of the Phase II permit to include all Puget Sound watersheds (6<sup>th</sup> field HUC) that contain Urban Growth Areas.
2. For the Phase II permit, use the disturbance thresholds contained in the Phase I permit and the western Washington Ecology Storm Water Manual instead of the one-acre threshold.
3. Strengthen the Phase I and Phase II permits to promote the implementation of low impact development and non-structural best management practices.
4. Add a basin planning program requirement to the Phase I permit.

Our recommendations regarding programs that are related to storm water management include:

1. Develop a comprehensive storm water monitoring program for the Puget Sound basin.
2. Use biological and toxic monitoring information to list streams impacted by storm water runoff on Ecology's Clean Water Act 303(d) list of impaired waters.
3. Increase support to local governments and the development community to promote low impact development in the Puget Sound region.
4. Increase support to local governments to develop basin plans in watersheds experiencing growth pressure to inform land use planning and rulemaking.

Please refer to the attached enclosure for a more detailed discussion of our recommendations.

We greatly appreciate the opportunity to discuss these issues with your staff over this past year. Thank you for your consideration of these recommendations. We look forward to working with Ecology's various programs in our joint efforts to restore and protect the important aquatic resources of western Washington through improved storm water management.

Sincerely,



Ronald A. Kreizenbeck  
Acting Regional Administrator

Enclosure

cc: Dave Peeler, Ecology  
Steve Landino, NMFS  
Ken Burg, USFWS  
Brad Ack, PSAT

## **EPA's Recommendations on Storm Water Management in Western Washington**

### Recommendations on the Draft Western Washington Municipal Storm Water Permits

#### *Permit Coverage Area and Petition Decision Criteria*

EPA fully supports Ecology's inclusion of most Urban Growth Areas to define the geographic area of draft Phase II permit. However, there are other areas outside the defined permit coverage area that are experiencing land conversion and development or are currently highly developed for industrial/commercial use but are below the population threshold. Of particular concern are areas in the Puget Sound region that are or will be experiencing growth (e.g., the unincorporated areas of Whatcom, Skagit, Thurston, Kitsap, Jefferson, Mason, Island and Clallam counties). In light of the importance of protecting the whole Puget Sound watershed and that storm water runoff is recognized as a major problem, EPA recommends that all sub-basins (6<sup>th</sup> field HUCs) with Urban Growth Areas in the Puget Sound region be covered under the Phase II permit.

If Ecology determines it cannot include these areas for coverage under the Phase II permit without significantly delaying the issuance of the permit, EPA recommends these areas be covered under the permit through either the permit petition process or another process within Ecology's authority. EPA recommends that these areas be covered under the permit within approximately two years. At the time the final Phase II permit is issued, EPA recommends that Ecology indicate its intention to expand the geographic scope of the permit.

To assist in this process, EPA recommends that Ecology define its decision criteria for addressing petitions to designate additional geographic areas. Ecology may receive such petitions in the future and it is important that Ecology set out its criteria beforehand in order to inform both the public and the potential permittees of this decision making process. EPA's recommended criteria in our regulations include such considerations as: "high growth or growth potential, high population density, contiguity to an urbanized area, and ineffective control of water quality concerns by other programs." EPA recommends that Ecology include all of EPA's recommended decision criteria, and specifically add criteria that prioritize areas that may negatively impact ESA listed species, associated critical habitat and/or important shellfish areas in Puget Sound.

#### *One Acre Threshold in the Phase II Permit*

While the federal NPDES Phase II regulation sets forth a one-acre minimum threshold for applying the new development measures within Phase II urbanized areas, there are unique aquatic circumstances in western Washington that justify thresholds less than one acre. EPA therefore recommends that the Phase II western Washington permit use the area of disturbance thresholds that are identified in the Ecology storm water manual, as currently proposed in the draft Phase I permit. The Phase II regulations allow states to consider more stringent permit requirements for regulating municipal storm water where such requirements are needed to protect water quality. The characteristics of western Washington warrant such consideration by Ecology.

The ESA listing of salmon and bull trout species is a major factor that warrants a threshold level below one acre. The NOAA Fisheries and US Fish and Wildlife Service have identified storm water impacts as a limiting factor in salmon and bull trout recovery. Most of the Phase II jurisdictions in western Washington drain storm water into waterbodies that have ESA listed salmon and bull trout and that are designated by the Services as critical habitat. The Puget Sound region is unique in that the urban landscape significantly overlaps ESA-listed species habitat. Exempting new development/redevelopment areas disturbing less than one acre from the storm water design and management requirements in so many jurisdictions in western Washington would not serve to restore and protect these important aquatic uses.

Second, the minimum technical requirement thresholds contained in the Western Washington Storm Water Management Manual (Manual) have been available and suitable for use in western Washington for many years. Subsequently including the federal minimum one acre threshold for Phase II permittees creates an inconsistent regulatory environment among western Washington jurisdictions. Given the unique water quality and habitat needs in western Washington, different storm water management thresholds are more appropriately applied based on specific local, technical or scientific reasons. For example, after completing a basin plan, areas that have a substantial impact on sensitive aquatic resources could retain the more stringent thresholds, while less stringent thresholds could be applied in areas with less potential impacts.

#### *Low Impact Development and Non-Structural Management Practices*

Low impact development (LID) methods and non-structural best management practices are important supplements to conventional storm water control methods. LID methods are implemented at the site scale and include: retention of native forest cover, minimal impact clearing and grading, retention of permeable soils, dispersion of storm water, permeable sidewalk and parking areas, and infiltration systems. Non-structural practices are implemented at the watershed scale and include programs and/or ordinances to direct growth into less sensitive areas, protect sensitive areas (e.g., stream buffers), maintain forest cover, minimize road stream crossings, and minimize impervious surface area. These practices are integral to improving the hydrologic and water quality regimes in watersheds to fully support aquatic resources.

EPA supports the provisions of both the Phase I (S5.C.5.b.iii) and Phase II (S5.C.4.iv) permits to “allow” LID techniques and non-structural preventative actions. However, EPA recommends strengthening this provision, given the importance of LID and non-structural practices to prevent and mitigate of storm water impacts. Specifically, EPA recommends modifying this provision to both “promote and allow for” LID techniques and non-structural practices. Additionally, EPA recommends requiring permittees to 1) identify current and potential non-structural actions to prevent storm water impacts, and 2) establish goals and metrics to promote and measure LID use with the intent that LID and non-structural actions be implemented widely throughout Western Washington. The increased emphasis on effective LID and non-structural preventative actions will contribute to a more effective and protective storm water management program.

## *Basin Planning*

Basin planning is an important tool to guide storm water management programs. In particular, basin planning aids in the adoption of preventative non-structural actions, such as land use plans, and helps prioritized restoration actions. Effective basin planning includes a watershed process analysis. This analysis describes how water (and associated material and pollutants) is transported through a watershed, where the natural hydrologic pattern is intact and where and to what degree it has been altered. It also includes identification of important aquatic resources and how the hydrologic pattern supports and/or degrades those resources. Effective basin plans connect this hydrologic and aquatic resource information to land use planning so that the local jurisdiction can adopt land use plans and other appropriate measures to minimize the impacts of development on aquatic uses at the watershed scale.

EPA recommends that Ecology include a basin planning program as a minimum performance measure listed under S5.5.b of the Phase I general permit. We also recommend this requirement is flexible to allow permittees to implement a basin planning program that fits within their specific needs and circumstances and that priority is given to highly sensitive areas where development pressure is high. EPA recommends that basins plans include an analysis of watershed processes and an impact assessment of different growth pattern scenarios to aid in the adoption or revision of land use plans (e.g., comprehensive plans, sub-areas plans, and critical area ordinances). We also recommend this measure only require the development of basin plans and that the extent to which land use plans are changed based on this information remain within the discretion of the local jurisdiction. King, Pierce, and Snohomish Counties have already completed some basin plans, so adding this measure would build upon these efforts. We believe including this measure in the permit reinforces that such preventative planning efforts are a crucial part of an effective storm water program.

## Recommendations on Storm Water Related Programs

### *Monitoring*

Monitoring is essential to good storm water management. Monitoring is necessary to establish baseline conditions, measure improvements, and to determine both program and BMP effectiveness. Good monitoring allows for adaptive management to adjust storm water programs over time, and should help frame future NPDES permit conditions. Monitoring is clearly a required aspect of the permit itself, but EPA recognizes there may be parts of a monitoring program that can be implemented outside the context of the permit. EPA recommends Ecology include as much of the monitoring program within the scope of the permit as feasible, along with ensure a comprehensive monitoring program is developed.

EPA sees two specific challenges with respect to monitoring municipal storm water in Puget Sound. The first is coordination and consistency across multiple jurisdictions in western Washington. The second is the lack of a basic receiving water monitoring program that provides information to evaluate the effects of storm water.

EPA recommends that, over the next year, Ecology continue to work with local municipalities, NOAA, the Puget Sound Action Team (PSAT), EPA, the scientific community, and others to design and begin a comprehensive storm water monitoring program in western Washington. The program should include ambient receiving water monitoring that fulfills the following objectives: 1) measures conventional and targeted toxic parameters as well as biological measures; 2) connects receiving water impacts to storm water; 3) tests performance of alternative management scenarios on receiving waters; 4) measures trends. Data generated by the Phase I permittees as part of the monitoring requirements should be collected and reported in a consistent manner to build a regional database easily accessed by both municipal and agency stakeholders and the general public. We applaud the steps Ecology has already taken in this regard. We recently approved Ecology's request for \$300,000 in 319 funding to support this type of effort. We look forward to working with you to bring this effort to fruition.

#### *Clean Water Act Section 303(d) Waterbody Listings Based on Biological and Toxic Information*

The hydrologic and toxic effects associated with development and roads impacts the ability of a stream to support a healthy biological community, including ESA listed salmonid populations. Conventional measures of water quality (e.g., temperature, dissolved oxygen, pH, and bacteria) do not adequately document the impacts of storm water on biological communities and designated uses. Biological indices, such as the B-IBI index, are more direct and sensitive measures.

Ecology's reliance on conventional pollutants for Section 303(d) listings results in a significant number of waterbodies impaired by storm water being excluded from the list. This reliance creates a gap in coverage for Ecology's water quality program to protect salmon uses. EPA recommends that in the next Section 303(d) listing cycle, Ecology assess and list waterbodies as impaired based on biological and toxic information. Ecology can list waters on the 303(d) list based on biological and toxic assessment information under its current water quality standards. We encourage Ecology to target watersheds that are important salmon habitat. These listings and subsequent Total Maximum Daily Loads (TMDLs) will provide important feedback to guide storm water management implementation.

Various states across the country currently include waterbodies on their 303(d) list based on biological information, including Michigan, North Carolina, Virginia, Indiana, Ohio, Vermont, and Tennessee. Some list waterbodies as impaired based on a biological index and defer identification of the specific pollutants to when the TMDL is developed. Other States identify the specific pollutants when they establish their 303(d) list (e.g., such as sediment and nutrients). We encourage Ecology to continue taking steps to use biological information for listing waterbodies in the next CWA 303(d) cycle.

Although TMDLs are based on a particular pollutant, in many instances, storm water impacts to aquatic uses are primarily a result of flow alteration. In these cases, correlations between stream flow and a pollutant can be established, and flow can serve as a surrogate indicator in the TMDL and be the basis for measures to implement the TMDL. Stream flow is an effective indicator to develop and measure the effectiveness of strategies to improve the conditions of streams impacted by urban storm water. EPA has been in contact with Ecology

NWRO and willing local governments in an effort to provide technical assistance in 2-3 pilot areas. The technical assistance will help apply methods being used in other parts of the U.S. to help strengthen storm water management programs through the development of TMDLs that take into account stream flow.

#### *Promotion of Low Impact Development*

Low impact development is an emerging practice that is being shown to effectively address storm water at the site scale. Beyond the foregoing permit recommendations regarding LID and non-structural management practices, EPA recommends that Ecology, in concert with other State agencies, such as the PSAT, ramp up its promotion and support of LID. For example, pilot projects and guidance could be produced to further support cities and counties in the development of programs and ordinances to promote LID. Fast track building permit applications, fee incentives, minimum effective impervious area requirements, and outreach strategies to the development community are examples of such promotion techniques.

EPA commends Ecology and the State of Washington for its support of LID through the \$2.5 million to implement LID pilot projects in Puget Sound. EPA has been working with Ecology staff on the Technical Advisory Team to assist in administering the grant funds. A barrier to widespread implementation of LID (in and outside of permitted areas) is the lack of "proof-of-concept". As part of the Technical Advisory Team, EPA has offered the resources of our Manchester Lab to enhance the monitoring of the LID pilot projects. As the pilot projects are chosen, EPA will work with Ecology and the grantees in an effort to analyze samples from the pilot projects for hydrocarbons and metals. We hope this information along with other monitoring information from LID projects funded directly by EPA in Puget Sound will further enhance the weight of evidence supporting LID as a viable alternative to minimizing hydrologic and toxic impacts of storm water.

#### *Support for Basin/Watershed Analysis in Support of Land Use Planning*

The Washington State Independent Science Panel, the Puget Sound Action Team, and the Puget Sound Partnership and others have recognized that storm water management should be addressed at the watershed scale and integrated with land use planning. In addition to the above basin planning recommendation regarding the Phase I permit, EPA recommends that Ecology increase its support of basin planning throughout the Puget Sound region for watersheds (generally at the 6<sup>th</sup> field HUC scale) experiencing growth that have important aquatic habitat. Basin planning provides an effective vehicle to integrate watershed process analysis with stormwater protection, local land use planning, and ESA recovery plans. We applaud Ecology's work to date in developing tools and guidance to support local jurisdictions to analyze watershed processes in conjunction with land use planning and other regulatory programs.

We encourage Ecology to continue to work with local, state, and federal partners to identify priority areas where basin planning would be beneficial and to help local jurisdictions incorporate basin planning in their land use planning processes. In this regard, we have recently provided funding to PSAT and are working with Ecology and other state agencies to support a pilot watershed planning project in Whatcom County. We are also working with Ecology, PSAT

and Shared Strategy on a workplan for local watershed grants to integrate efforts to date that address salmon recovery, water quality, and water quantity with the goal of linking this information with land use decisions.

Kitsap County's Chico Creek Watershed Alternative Futures project and the Silverdale sub-area plan are good examples of where watershed analysis is being linked to land use planning. The lower Cedar River basin plan completed in the late 1990's is a good example of the usefulness of basin planning to salmon recovery. The watershed process analysis as part of the basin plan provided valuable information to help the salmon recovery process prioritize areas for protection, including land use changes, and target areas for restoration. Further, the Shared Strategy recovery plan identifies land use planning under the State's Growth Management Act as a key tool in the recovery of salmon and bull trout. Basin planning when linked to land use planning is a valuable tool to minimize storm water impacts on aquatic uses. We, therefore, see basin planning as an important tool in the implementation of the Shared Strategy recovery plan.